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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/050,716

01/18/2002

Gregg D. Sucha

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6834

7590 09/04/2007
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EXAMINER

NGUYEN, DUNG T

ART UNIT

PAPER NUMBER

2828

MAIL DATE

DELIVERY MODE

09/04/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

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Office Action Summary

Application No.

10/050,716

Applicant(s)

SUCHA ET AL.

Examiner

Dung (Michael) T. Nguyen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 July 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 30-34, 36, 54, 55 and 57-59 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 30-32, 54 and 57-59 is/are rejected.
- 7) ☒ Claim(s) 33, 34, 36 and 55 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 07/24/07.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____.

OFFICE ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 30, 54, and 57 are rejected under 35 U.S.C. 103(a) as being unpatentable over Digiovanni et al. (5237576) in view of Swaminathan et al. (5717712).

Digiovanni et al. show in Fig. 1 and 4-5 a short-pulse fiber laser 30 (col.4, l.63-65) but fail to disclose a method of stabilizing the short-pulse fiber laser, comprising: isolating said fiber laser in a temperature-controlled enclosure from an external environment; and operating the fiber laser within the enclosure while utilizing the enclosure to stabilize a repetition rate of the fiber laser.

Swaminathan et al. teach a temperature-controlled enclosure from an external environment for a fiber optic communication laser (abstract)

It would have been obvious to one having ordinary skill in the art at the time the invention was made to provide Digiovanni et al. what is taught by Swaminathan et al. in order to maintain the repetition rate (desired performance) (col.2, l.3-18) of the fiber laser.

Claims 31-32, and 58-59 are rejected under 35 U.S.C. 103(a) as being unpatentable over DiGiovanni et al. (5237576) in view of Swaminathan et al. (5717712) and further in view of Takara et al. (5646774).

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With respect to claim 31, DiGiovanni et al. and Swaminathan et al. disclose all limitations of the claims except for the fiber laser being wrapped onto a fiber spool.

Takara et al. teach the fiber laser is wrapped onto a fiber spool 23 in Fig.5A.

it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide DiGiovanni et al. and Swaminathan et al. what is taught by Takara et al. in order to change the optical path length of the fiber laser.

With respect to claim 32, it is understood that the thermal expansion of the fiber spool must be matched to the optical fiber. Otherwise, the optical fiber laser would not operate properly.

With respect to claim 58, Takara et al. disclose in Fig.5A and col.8, l.7-15 a piezoelectric transducer and a power supply 35 and col.8, l.32-35 disclose the rep. rate is controlled.

With respect to claim 59, Takara et al. disclose in Fig.1 and col.4, l.44-55 a phase lock loop circuit.

Response to Arguments

Applicant's arguments filed on 07/02/07 have been fully considered but they are not persuasive.

- On pages 11-12 of the remarks, Applicant argued that DiGiovanni does not disclose a short-pulse fiber laser or in fact a pulse laser of any description.

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Instead, it discloses a continuous wave (CW) laser and does not have a repetition rate. The Examiner does not concur because DiGiovanni do teach a short-pulse fiber laser with a repetition rate (please, see col.3, 1.27 and col.4, 1.63-65). Additionally, Applicant argued that Swaminathan do not disclose a fiber laser in a temperature controlled enclosure. Indeed, Swaminathan do teach a fiber laser in a temperature controlled enclosure (package) (please, see Abstract) and since a fiber laser is in the package, it is understood that it has been isolated from the external environment and stabilizes the fiber laser rep. rate as claimed. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to combine DiGiovanni and Swaminathan.

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

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Allowable Subject Matter

Claims 33-34, 36 and 55 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Communication Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dung (Michael) T Nguyen whose telephone number is (571) 272-1949. The examiner can normally be reached on 8:30 - 17:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Min Harvey can be reached on (571) 272-1835. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 306-3329.



Michael Dung Nguyen

8/24/07